6th Grade
Main Rangefinder 4

It is important that you explain and show how you solved the problems on this assessment. If you use a calculator, show how you set up the math.

❶ Mrs. Smith's class of 24 students has earned a pizza party. They have $75.00 to spend on pizza and pop.

One topping pizza = $7.50 Six pack pop = $1.25

Advanced use of symbols and communication skills

a. If each pizza has eight slices, and each student wants 3 slices, how many pizzas will they need? *Show or explain how you found your answer.*

$24 \times 3 = 72$

$\frac{8x}{8} = \frac{72}{8}$

$x = 9$

9 pizzas

b. If each student wants one can of pop, how many six packs of pop will they need? *Show or explain how you found your answer.*

$24 \div 6 = 4$

4 six packs of pop

c. The class decides to buy enough for 3 slices of pizza and one can of pop for each student. What will be the total cost for the pizza party and how much change will Mrs. Smith's class receive from the $75.00? *Show or explain how you found your answer.*

$1.25 \times 4 = 5.00$

$7.50 \times 9 = 67.50$

$5.00 + 67.50 = 72.50$

$75.00 - 72.50 = 2.50$

The cost would be 72.50, the change would be 2.50.

Minimal or non-existent errors

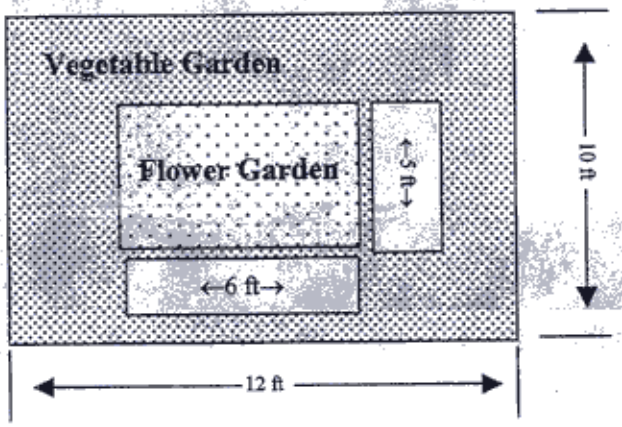
❷ 1/8 of one pizza left and 5/8 of another pizza left at the end of the party, what fraction of a whole pizza would be remaining? *Show or explain how you found your answer.*

$1/8 + 5/8 = \frac{6}{8} 2 = \frac{3}{4}$

3/4 of one whole pizza

Read problems 2, 3, 4 and 5 on the next few pages. Select three problems to answer. Answer ALL of the parts of the three problems you select to answer. Cross out the one problem that you do not choose to answer.

❷ Lynn is going to put a flower garden in the middle of a vegetable garden.



Area = length x width

Advanced use of symbols and communication skills

a. What is the perimeter of the vegetable garden? *Show or explain how you found your answer.*

$10 \cdot 2 + 12 \cdot 2$

$20 + 24 = 44$

The perimeter is 44ft.

b. What is the perimeter of the flower garden? *Show or explain how you found your answer.*

$5 \cdot 2 + 6 \cdot 2$

$10 + 12 = 22$

The perimeter is 22ft.

c. How much **total** fencing will Lynn need to buy to fence around each of the gardens? *Show or explain how you found your answer.*

44 ft.
22 ft.
6 ft.

Lynn would need 66ft. of fencing.

Advanced application of basic skills

What is the area of the flower garden and what fraction of the total garden area is this? *Show or explain how you found your answer.*

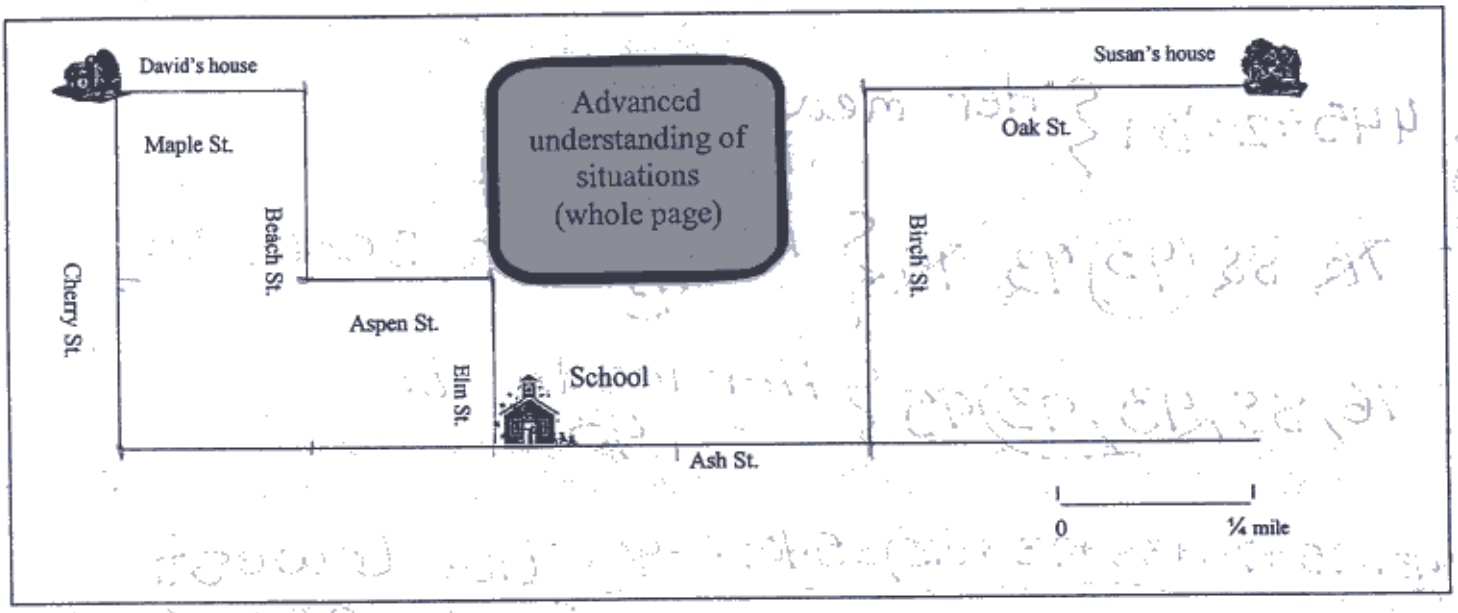
$5 \cdot 6 = 30$ $\quad 120 \div 10 = 12$

$\times 10$
120

$\frac{3}{12} \div 3 = \frac{1}{4}$

The area of the flower Garden is 30ft. That is $\frac{1}{4}$ of the total Garden Area

❸ The following is a map of David's and Susan's neighborhood. Use the given scale to answer the questions.



Advanced understanding of situations (whole page)

a. Would it be shorter for David to walk to school using the Cherry Street route or the Maple Street route? *Show or explain how you found your answer.*

$\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=\frac{1}{1}$ = Cherry

$\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=\frac{1}{1}$ = Maple

The two routes would be the same distance

b. About how far do David and Susan each have to walk to school? Who has the shortest walk to school? *Show or explain how you found your answer.*

D = 1 mile ; S = $1\frac{1}{2}$ miles

$\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}+\frac{1}{4}=1\frac{1}{2}$

David has the shortest walk to school.

c. Susan walks ¼ mile in five minutes. School starts at 8:20 AM. What time does she need to leave her house to make it to school on time? *Show or explain how you found your answer.*

6 ¼ miles × 5 min

30 min

7 80

~~8 20~~

− 30

7.50

Susan needs to leave at 7:50 to make it to school on time

Appropriate processes accurately completed

Appropriate processes accurately completed

❹ Jan[illegible] 93, 95, 76, 88 and 93.

a. What is her average (mean) score? *Show or explain how you found your answer.*

93
+95
+76
+88
+93
445

445 ÷ 2 = 89 { Her mean is 89

b. Using Jan's five test scores, find her median score. *Show or explain how you found your answer.*

76, 88, (93), 93, 95 { Her median score is 93

c. What is the mode of her scores? *Show or explain how you found your answer.*

76, 88, (93, 93) 95 { Her mode is 93

d. Jan really wants a mean score of 90. What is the lowest score she can earn on the next test so that she has a mean score of 90? *Show or explain how you found your answer.*

93+95+76+88+93+(95) = 540 ÷ 6 = 90 } The lowest score she can get is a 95.

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❺ The first three figures of a pattern are:

a. Complete the table showing the number of triangles, and the number of sticks required to form them.

Number of Triangles	Number of Sticks
1	3
2	

b. How many sticks would be required to make 6 triangles? *Show or explain how you found your answer.*

c. How many sticks would be needed to make 25 triangles? *Show or explain how you found your answer.*

d. Write the rule that explains the relationship between the number of triangles and the number of sticks needed.